



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/659,117

09/10/2003

Cheng-Chi Wang

250317-1050

3590

24504

7590

03/02/2005

THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP
100 GALLERIA PARKWAY, NW
STE 1750
ATLANTA, GA 30339-5948

EXAMINER

PRENTY, MARK V

ART UNIT

PAPER NUMBER

2822

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

CT

Office Action Summary	Application No. 10/659,117	Applicant(s) WANG ET AL.	
	Examiner MARK V. PRENTY	Art Unit 2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on September 10, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-15 is/are allowed.
- 6) ☒ Claim(s) 16, 17, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

This Office Action is in response to the papers filed on September 10, 2003.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 10-20, drawn to a semiconductor device, classified in class 257, subclass 59.
- II. Claims 1-9, drawn to a method of making a semiconductor device, classified in class 438, subclass 149.

The inventions are distinct, each from the other because:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process, such as by selectively depositing the various layers, rather than blanket depositing and patterning them.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Daniel McClure (Reg. No. 38,962) on October 20, 2004, a provisional election was made without traverse to prosecute the invention of Group I, claims 10-20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-9 are withdrawn from further

Art Unit: 2822

consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claims 16, 17, 19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Lai (United States Patent 6,825,497).¹

With respect to independent claim 16, Lai discloses a thin film transistor substrate (see the entire patent, including the Fig. 7E disclosure), comprising at least: a plurality of stack structures on the substrate, wherein each stack structure comprises layers successively disposed which are a first conduction layer 13; a first insulation layer 15a, and a semiconductor layer 17; an ohmic contact layer 19, positioned on a first region and a second region of the semiconductor layer, wherein the first region and the second region are disconnected; a second insulation layer 23, positioned at least on side surfaces of the stack structures; a source electrode 21S and a drain electrode 21D, wherein the source electrode is positioned at least on the ohmic contact layer in the first region, and the drain electrode is positioned at least on the ohmic contact layer in the second region; a passivation layer 27, positioned on the semiconductor layer and the

¹ Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

source and the drain electrodes; and a transparent conduction layer 25a, positioned on the passivation layer and electrically coupled to one of the source and the drain electrodes.

Claim 16 is thus rejected under 35 U.S.C. 102(e) as being anticipated by Lai.

With respect to dependent claim 17, Lai's second insulation layer 23 is further deposited among the stack structures.

Claim 17 is thus rejected under 35 U.S.C. 102(e) as being anticipated by Lai.

With respect to dependent claim 19, Lai's first conduction layer 13 is a gate electrode (see column 3, lines 28-30).

Claim 19 is thus rejected under 35 U.S.C. 102(e) as being anticipated by Lai.

With respect to dependent claim 20, Lai's transparent electrode layer 25a is formed of indium-tin-oxide (see column 3, lines 59-67).

Claim 20 is thus rejected under 35 U.S.C. 102(e) as being anticipated by Lai.

Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable over the prior art of record if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Claims 10-15 are allowable over the prior art of record.

The prior art of record, including United States Patent 5,883,682 (Kim et al. – hereafter Kim), does not disclose or suggest the allowable thin film transistor substrate taken as a whole, including the passivation layer positioned on (i.e., in contact with) the semiconductor layer (see Kim's Fig. 7C and note that passivation layer 139 is not positioned on semiconductor layer 121).

Art Unit: 2822

United States Patent Application Publication 2004/0063254 is related to this application.

Registered practitioners can telephone the examiner at (571) 272-1843. Any voicemail message left for the examiner must include the name and registration number of the registered practitioner calling, and the Application/Control (Serial) Number. Technology Center 2800's general telephone number is (571) 272-2800.


Mark V. Prenty
Primary Examiner